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WHAT IS CLAIMED IS:

1. (Currently Amended) A high voltage conditioning interface module to condition an electrical signal locally, comprising:

an input port to receive the electrical signal from an external sampling point, a conditioning circuit, wherein the conditioning circuit comprises:

a voltage reducing circuit having output terminals to output a reduced voltage to test equipment wherein the test equipment is coupled to the output terminals by a low-voltage circuit pathway; and

a voltage limiting circuit in parallel with the output terminals to limit a voltage across the output terminals when a circuit element within the voltage reducing circuit and parallel to the output terminals fails open or short circuits; and

a first electrical pathway to electrically couple the received electrical signal to the conditioning circuit.

- 2. (Original) The voltage conditioning circuit of Claim 1, wherein the voltage reducing network comprises:
 - a first resistance; and
- a second resistance in series with the first resistance, wherein the output terminals are across the second resistance.
- 3. (Original) The voltage conditioning circuit of Claim 1, wherein the voltage limiting circuit comprises a transorb.
- 4. (Original) The voltage conditioning circuit of Claim 1, wherein the voltage limiting circuit comprises:
- a first diode aligned such that if a voltage across the output terminals exceeds a breakdown voltage, the output terminals are shunted to a reference point, and
- a second diode in parallel to the first diode but aligned such that forward current flow in the second diode is opposite that of the first diode.

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- 5. (Original) The voltage conditioning circuit of Claim 2, wherein the ratio of the second resistance to the sum of the first resistance and the second resistance is about 1/101.01.
 - 6. (Original) The voltage conditioning circuit of Claim 1, wherein: the electrical signal does not exceed about 600 volts; and the reduced voltage does not exceed about 40 volts.
- 7. (Original) The voltage conditioning circuit of Claim 1, wherein the reduced voltage signal is provided to a data acquisition system.
- 8. (Original) The voltage conditioning circuit of Claim 1, wherein an epoxy package encapsulates the conditioning circuit.
 - 9. Canceled.
- 10. (Currently Amended) The voltage conditioning circuit of Claim 1, wherein the reduced voltage signal is provided to a display-test equipment.
- 11. (Original) The voltage conditioning circuit of Claim 1, wherein a failure in either the first resistance or the second resistance does not result in a reduced voltage exceeding a predetermined safe voltage.

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12. (Currently Amended) A method to locally condition a sampled high voltage signal, comprising:

locally coupling a first circuit pathway to a sampling point;

providing the sampled voltage signal to a voltage divider circuit;

dropping the sampled voltage across the voltage divider circuit;

sampling a reduced voltage at a reduced voltage output; and

preventing the reduced voltage at the reduced voltage output from exceeding a predetermined voltage level;

coupling the reduced voltage output to a remote test system with a low-voltage circuit pathway; and

reading the reduced voltage output with data collection equipment.

- 13. (Original) The method of Claim 12, wherein a ratio of the reduced voltage to the sampled voltage is a constant ratio.
- 14. (Original) The method of Claim 12, wherein preventing the reduced voltage at the reduced voltage output from exceeding a predetermined voltage level further comprises placing a voltage limiting circuit in parallel with the voltage divider circuit at the reduced voltage output.
- 15. (Original) The method of Claim 12, further comprising providing the reduced voltage output to a data acquisition system through a second circuit pathway.
- 16. (Original) The method of Claim 12, wherein the sampling point is within a complex system having a plurality of sampling points coupled to remote data acquisition systems.

17. (Currently Amended) A voltage conditioning interface module to locally condition an electrical signal sampled within a complex system, comprising:

an input port to receive the electrical signal from an external sampling point within the complex system;

an epoxy package encapsulating a conditioning circuit, wherein the conditioning circuit comprises:

a voltage divider circuit having a first resistance and a second resistance, wherein output terminals are across the second resistance to provide a reduced voltage output, and

a voltage limiting circuit in parallel with the output terminals to limit the reduced voltage across the output terminals when either the first resistance or the second resistance fails; and

a first electrical pathway to electrically couple the received electrical signal to the conditioning circuit; and

a low voltage circuit pathway is operable to couple the output terminals to a remote data collection equipment.

- 18. (Original) The voltage conditioning circuit of Claim 17, wherein the voltage limiting circuit comprises a transorb.
- 19. (Original) The voltage conditioning circuit of Claim 17, wherein the voltage limiting circuit comprises:
- a first diode aligned such that if the reduced voltage across the output terminals exceeds a breakdown voltage, the output terminals are shunted to a reference point; and
- a second diode in parallel to the first diode but aligned such that forward current flow in the second diode is opposite that of the first diode.
- 20. (Original) The voltage conditioning circuit of Claim 17, wherein the ratio of the second resistance to the sum of the first resistance and the second resistance is about 1/101.01.

- 21. (Original) The voltage conditioning circuit of Claim 17, wherein: the electrical signal does not exceed about 600 volts; and the reduced voltage does not exceed about 40 volts.
- 22. (Original) The voltage conditioning circuit of Claim 17, wherein the reduced voltage is provided to a data acquisition system.
 - 23. Canceled.
- 24. (Original) The voltage conditioning circuit of Claim 17, wherein a failure in either the first resistance or the second resistance does not result in a reduced voltage exceeding a predetermined safe voltage, and wherein the failure comprises an open circuit or short circuit.

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